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ABSTRACT

Entries in this annotated bibliography are presented in four sections. The first section includes studies which attempt to evaluate various approaches to humane education, providing educators with general guidelines on which of the approaches have been found to be the most and least effective for teaching young people about animals and animal welfare. The second section consists of various studies which have considered ways in which children and adults think and feel about animals, as well as the factors that influence their perceptions. The third section is devoted to studies on anthropomorphism, the attributing of human traits and motivations to non-human animals. The material cited considers such issues as the advantages and disadvantages of anthropomorphism in biology teaching, anthropomorphism in children's literature, and ways in which exposure to anthropomorphism affects children's attitudes toward and knowledge of animals. The final section focuses on the impact of the media in promoting humane values. Introductory comments on how this bibliography can be useful are included. (JN)

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NAAHE

Special Report:

AN ANNOTATED BIBLIOGRAPHY OF RESEARCH RELEVANT TO HUMANE EDUCATION

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Promotion and collection of humane education research is an important part of the work of the National Association for the Advancement of Humane Education. Becoming familiar with research in our field can help all of us make more intelligent decisions about the goals we set for humane education as well as the methods we use to attain these goals. The field of humane education has reached a point where individuals--at the local shelter, in the classroom, and within the academic community--are beginning to study it: to examine its goals, methods, and the demographic and psychological factors that may influence its effectiveness. The bibliography that follows is an attempt to make the most recent and relevant of this research accessible to you.

It is important to keep in mind that research in humane education is limited. As yet there is not enough information available to allow us to make broad generalizations. Nevertheless, the current studies can help us to identify certain patterns and trends which have begun to emerge in many areas within our field.

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HOW CAN A BIBLIOGRAPHY OF HUMANE EDUCATION RESEARCH BE USEFUL?

As humane educators we should be concerned not only with our subject matter, but also with insuring that what we do has its desired effect: a positive influence on children's knowledge of, attitudes about, and behavior toward animals. Many of the studies in the first section, "Humane Education," attempt to evaluate various approaches to humane education. These studies can

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provide educators with general guidelines on which of the approaches have been found to be most effective (and least effective) for teaching young people about animals and animal welfare. Becoming familiar with humane education evaluation research can also help to lend credibility to our efforts to support current or proposed humane education programs. Attempts to introduce our programs into the schools will be far more convincing to a wary school board, skeptical principal, or overburdened teacher, if we can present evidence that humane education is not only important, but that it works as well.

The second section, "Attitudes Toward Animals," consists of various studies which have considered the ways in which children and adults think and feel about animals, as well as the factors that influence their perceptions. Do boys generally have different attitudes toward animals than girls? Do attitudes toward animals differ with the age levels and developmental stages of children? How do factors such as pet ownership, parental values, and peer pressure influence children's attitudes? The answers to all of these questions can have a bearing on the way we choose to approach our job as humane educators. Acquainting ourselves with the research on attitudes toward animals is one way we can learn more about the feelings and thought process of a particular audience. Such knowledge can help us tailor our programs and methods to the specific needs of the children we seek to influence.

The third portion of the bibliography is devoted to studies on anthropomorphism, the attributing of human traits and motivations to non-human animals. The material cited in this section considers such issues as the advantages and disadvantages of anthropomorphism in biology teaching, anthropomorphism in children's literature, and the ways in which exposure to anthropomorphism affects children's attitudes toward and knowledge of animals. It is especially important for us as humane educators to be

familiar with the concept of anthropomorphism because so much of what we do involves explanation of animal behavior and characteristics. It is virtually impossible to eliminate all anthropomorphic references from our vocabulary, and indeed in many situations it may not be wise to do so. In other cases, however, depending on the age level of the audience and the subject being taught, avoiding anthropomorphism may be appropriate. The studies in this section can help provide a basis for deciding the extent to which we use anthropomorphism in our humane education programming and materials.

Though brief, the fourth section on "The Impact of the Media" contains information which has significant implications for humane education. Because television and the other media are part of our daily lives and have a tremendous impact on children, it is important for us to recognize the potential for the media as a tool for promoting humane values. Currently several studies on the impact of the media are in the works at various universities around the country. These will be added to the bibliography once they become available.

A common problem with compiling most bibliographies is having to decide which works to select out of a vast amount of literature, and then knowing when to stop selecting. In this case we were concerned more with the problem of finding enough studies and articles with meaningful implications for humane education. As one researcher put it, " literature involving humane education issues is scant." The following bibliography, though by no means exhaustive, contains a large portion of the existing research relevant to the theory and practive of humane education. As new studies are completed, we will expand the bibliography to keep it as up-to-date and useful as possible. New sections as well as individual studies will be added as the volume and scope of relevant research grows. We encourage comments and suggestions for additions of further studies, and would like to hear from you if you are involved in any reasearch or evaluation activities.

An Annotated Bibliography of Research

Relevant to Humane Education

HUMANE EDUCATION

Cameron, Lyn. "The Effects of Two Instructional Treatments on Eighth-Grade Students' Attitudes Toward Animal Life." Ph.D. dissertation, Purdue University, 1983.

Describes a study designed to investigate how eighth grade students' attitudes toward animals might be influenced. One experimental group, consisting of two classrooms, received print material and media-based instruction (films and filmstrips) on animal issues. A second experimental group received print material and lecture-method instruction on the same animal issues. A third group served as a control and received no special treatment. Results indicated that the media-based instruction group showed the greatest improvement in attitudes. The lecture treatment group also improved, but to a lesser extent. The control group showed no positive change in attitudes.

Fitzgerald, Thomas A. "Evaluating Humane Education: The Jefferson County Study." Humane Education, September 1981, pp. 21-22.

Analyzes the effects of three different humane education treatments on fifth and sixth grade students in Jefferson County, Colorado. Treatments varied as follows: (1) reading material with no instruction; (2) reading material with instruction; (3) reading material with instruction repeated over time (consisted of four visits to the classroom by an outside humane educator); (4) control group receiving no special treatment. Results showed a significant difference in students' humane attitudes as a result of the treatments they were exposed to. Treatment number two (intensive) was found to be more effective than the repeated treatment or the light treatment (number one).

Kolafa, K. Nancy. "Does Exposure to an Animal Care Program Change Children's Measureable Behavior Towards Animals/ An Experimental Study." Research proposal, University of Manitoba, 1982. (Typewritten.)

A proposal for a study designed to determine differences between suburban elementary school students' behavior toward animals before and after a program of animal care involving a classroom pet. Contains a review of related literature and research, a description of the research procedures, and appendices containing the testing instruments and other information. The implementation phase of this proposal is currently in progress.

Kress, Stephen Wayne. "A Study of the Modification of Children's Negative Attitudes Towards Animals." Ph.D. dissertation, Cornell University, 1975.

Describes a study that sought to examine factors contributing to positive attitude change toward animals. Efforts were made to modify fourth grader's negative attitudes toward spiders and snakes. Various approaches produced different results. Direct instruction (participation with a live animal) combined with positive adult or peer modeling proved to be the most effective method for inducing positive attitude change.

Malcarne, Vanessa. "The Boston Study." Humane Education, March 1983, pp. 12-13.

Reports on a study conducted by the Animal Rescue League of Boston in conjunction with the American Humane Association. The study attempted to determine the impact of four different humane education treatments on fourth and fifth-grade children's attitudes toward animals. The treatments included the following: (1) repeated--humane education lessons and materials presented by in-class teachers and a visiting educator over a period of several days; (2) intensive--a one-time presentation by a visiting educator; (3) light--humane education reading materials without instruction; (4) control--no reading material or instruction. Results indicated that the repeated treatment was most effective, and that the intensive treatment was also effective, but less so. The light treatment had no significant impact on the students' attitudes.

_____. "The Effects of Roleplay and Maximization of Perceived Similarity on Children's Empathy with Other Children and Animals." Senior honors thesis, Stanford University, 1981. (Typewritten.)

A study designed to examine the effects of role-playing on children's empathy with animals and empathy with other children. Suggests that role-playing animals is an effective means of increasing children's empathy with animals and role-playing children helps to increase empathy with other children. However, children who had been induced to empathize with animals showed little tendency to extend that increased empathy to other children. Includes a review of the literature on empathy.

_____. "Empathy and Humane Education." NAAHE Special Report, 1983 (Mimeographed.)

A review and analysis of literature on empathy, altruism, and ways in which empathy with animals can be promoted. Methods for increasing children's empathy with animals include role-play, participation in distress experiences, emphasis of similarities between animals and humans, inductive discipline, and exposure to empathic and altruistic role models. The benefits of frequent direct interaction with animals are also discussed.

_____. "What Can Humane Education Research Do For You?" Humane Education, December 1981, pp. 18-19.

Discusses ways in which humane educators can utilize both subjective and objective evaluation techniques to assess the effectiveness of humane education programing. Also reports on a study designed to examine the effects of role-playing on children's empathy with animals and empathy with other children. See also citation above, Malcarne, Vanessa. "The Effects of Roleplay and Maximization of Perceived Similarity on Children's Empathy with Other Children and Animals."

Mayer, William V. "Guidelines for Educational Priorities and Curricular Innovations on Issues in Human/Animal Interactions." A BSCS project sponsored by the Geraldine Dodge Foundation and the Myrin Institute, June 1982.

Describes a study designed to determine the educational needs of high school biology teachers and students in the subject area of human/animal interactions. Questionnaires were sent to large samples of both students and teachers to test for such variables as knowledge about animals, views of ethical decision making

and science (student survey), attitudes toward animals, and use of animals in the classroom (teacher survey). Results indicate indifference to and deficient knowledge of human/animal interactions on the part of both teachers and students surveyed.

Powell, Constance B. and Roger A. "The Predator-Prey Concept in Elementary Education." Wilderness Society Bulletin 10 (1982): 238-244.

Describes a study which examined the role of education in the development of attitudes toward predators by interviewing children; surveying the attitudes, knowledge, and practices of teachers; and examining the portrayal of animals in children's literature. Findings suggest that children are ready to learn about predators and predation sooner than most teachers and authors now presume. (A discussion of this study and its implications for humane education can be found in Humane Education, December 1983, p. 17.)

Spencer, Randolf Malcom, Jr. "Construction and Validation of an Instrument Designed to Measure Cognitive Achievement in Humane Education Among Second and Third Grade Pupils." Ed.D. dissertation, University of Tulsa, 1976.

Describes construction of an instrument for assessing cognitive learning in humane education among second and third grade students. Major procedures included the pilot tests; refinement and administration of the final instrument; and analysis of data. The resulting tests are contained in appendices and cover these topics: "Wildlife in our Community," "Pets," "Farm Animals," and "Animals of the Forest."

Vockell, Edward, and Hodal, Frank. "Developing Humane Attitudes: What Does Research Tell Us?" Humane Education, June 1980, pp. 19-21.

Describes a study designed to examine the impact of two humane education treatments on elementary school students' attitudes toward animals. The treatments included: (1) instruction by a visiting educator, printed information, and follow-up printed information; (2) printed materials and posters; (3) a control group which received no special presentation or materials. Although both treatment groups scored better than the control group, there was no significant difference in the impact of treatment number one and treatment number two. Study resulted in the development of the "Johnny and the Fireman" and "Billy and the Fireman" attitude tests.

_____. "Humane Education: The Status of Current Research and Knowledge." NAAHE Special Report, 1978. (Mimeographed.)

A literature survey which analyzes published research on the topic of humane education. Discussion includes such subjects as measurement of humane attitudes, American attitudes toward animal life, strategies for humane education, and suggestions for the direction of future research.

Westerlund, Stuart. "Humane Education in Our Nation's Schools: A Research Project." George Washington University, 1965. (Typewritten.)

Reports on a pilot study sponsored by The Humane Society of the United States to investigate the feasibility and importance of humane education in American schools. Findings indicated that, although little was being done in humane education at the time of the study, considerable interest in the subject was shown by educators. Results also indicated that implementation of humane eduation in U.S. schools is feasible.

Whitlock, Eileen S., and Westerlund, Stuart R. Humane Education: An Overview. Tulsa: The National Association for the Advancement of Humane Education, 1975.

A thorough discussion of the field of humane education including its history, development, and relation to other educational areas such as environmental and outdoor education. Also discusses the various rationales for humane education, as well as contemporary trends and developments in the field. Includes summary of the George Washington University study conducted by Stuart Westerlund. (See citation above.)

ATTITUDES TOWARD ANIMALS

Bart, William M. "A Hierarchy Among Attitudes Toward Animals." The Journal of Environmental Education 3 (Summer 1972): 4-6.

A survey was given to college students asking them to indicate their like or dislike for a variety of animals. A hierarchy among attitudes toward animals was then constructed. Bart suggests that developing positive attitudes toward animals at the bottom of the hierarchy will affect positive attitudes toward animals higher up. Also suggests that positive attitudes toward animals higher in the hierarchy are prerequisites to positive attitudes toward animals lower down. Urges that school curricula should be developed that take into account sequences among attitudes toward animals.

Bodson, Liliane. "Attitudes Toward Animals in Greco-Roman Antiquity." International Journal for the Study of Animal Problems 4 (1983) 312-320.

Surveys the range of ancient Greek and Roman attitudes toward animals. Discusses the extent to which these two cultures were concerned with the problems related to animal welfare and rights, and how they coped with them.

Bowd, Alan D. "Understanding of Animal Suffering by Young Children." Humane Education Journal 4 (1982): 5-7.

Discusses a study of attitudes of 37 kindergarten children (see citation below). Suggests that children in early years learn that to inflict pain on individual animals is wrong but that animals generally do not experience pain as acutely as humans. As a result, possession of these two beliefs allows children to function in a society that condemns cruelty to animals yet at the same time institutionalizes systematic exploitation on a massive scale.

_____. "Young Children's Beliefs About Animals." The Journal of Psychology 110 (1982): 263-266.

Discusses interviews of thirty-seven kindergarten students which showed that the students' beliefs about animals were egocentric and subjective. Evidence was also found of the beginnings of a more decentered and generalized view in which animal capabilities were differentiated from those of human beings. (For a discussion of the implications of this study for humane education, see Humane Education, September 1983, p. 16.)

Braithwaite, John and Braithwaite, Valerie. "Attitudes Toward Animal Suffering: An Exploratory Study." International Journal for the Study of Animal Problems 3 (1982): 42-49.

Presents findings of a survey of college students designed to explore attitudes toward animal suffering. Results indicate that attitudes supportive of animal rights and welfare generally exist, but that behavior does not always correspond with such attitudes. Suggests that more emphasis be placed on raising people's awareness of the inconsistencies between their actions and beliefs concerning animals. (For a discussion of the implications of this study for humane education, see Humane Education, March 1984, p. 22.)

Brown, Larry T.; Shaw, Terry G.; and Kirkland, Karen D. "Affection for People as a Function of Affection for Dogs." Psychological Reports 31 (1972): 957-958.

Describes a study designed to explore the relation between human reactions to dogs and human reactions to other people. Two tests designed to measure feelings toward dogs and the fundamental aspects of interpersonal relationships were given to forty-eight students. Results indicate that people who expressed little affection for dogs also tended to express little affection for other people.

Cameron, Paul and Mattson, Michael. "Psychological Correlates of Pet Ownership." Psychological Reports 30 (1972): 286.

Discusses the relationship between pet ownership and attitudes toward people. Found that pet owners claimed not to like people as much as non-owners nor to feel as liked by others. The study suggests that pet owners are less psychologically healthy than non-owners.

Collins, Michael A. J. "Student Attitudes Toward Animals." American Biology Teacher 38 (November 1976): 491-493.

Describes a study which attempted to determine differences between boys' and girls' animal preferences, and differences between biology majors' and non-biology majors' preferences. Also attempted to determine the existence of differences in preferences for particular groups of animals. Results suggest that boys seem to like a wider range of animals than girls and like individual animals better than girls. Also, mammals were preferred to all other groups and carnivores were less well liked than herbivores. Attitudes toward the animal groups were found to be more positive among biology majors than non-biology majors.

Johnson, Roger T. "On the Spoor of the Big Bad Wolf." The Journal of Environmental Education 6 (Winter 1974): 37-39.

Describes a study which attempted to determine if adults tend to moderate their childhood views of the wolf, and the differences in attitudes between men and women as well as children and adults. Age was found to be more significant than sex in determining attitudes toward the wolf. Also contrasts the traditional literary view of the wolf with the new realistic perspective.

Kellert, Stephen R. "Activities of the American Public Relating to Animals." U.S. Fish and Wildlife Service (Government Printing Office No. 024-010-00-624-2) 1980.

Reports on a study designed to explore the size, social characteristics, geographic distribution, and wildlife attitudes and knowledge of various groups of people involved in animal-related activities. Considers groups such as hunters, birdwatchers, and pet owners, which engage in consumptive and non-consumptive animal-related activities.

_____. "Public Attitudes Toward Critical Wildlife and Natural Habitat Issues." U.S. Fish and Wildlife Service (Government Printing Office No. 024-010-00-623-4) 1979.

Reports on a study designed to explore attitudes of the American public toward selected wildlife and natural habitat issues. Issues discussed include endangered species, animal damage control, and habitat protection.

Kellert, Stephen R., and Berry, Joyce K. "Knowledge, Affection and Basic Attitudes Toward Animals in American Society." U.S. Fish and Wildlife Service (Government Printing Office No. 204-101-00-625-1) 1980.

Describes a study which examined the American public in terms of basic attitudes toward wildlife, knowledge of animals, awareness of wildlife issues, species preferences, and broad symbolic perceptions of animals. Variables considered include sex, race, urban-rural residence, religion, education, and occupation.

Kellert, Stephen R. and Westervelt, Miriam O. "Children's Attitudes, Knowledge, and Behaviors Toward Animals." U.S. Fish and Wildlife Service (Government Printing Office No. 024-010-00641-2) 1983.

An extensive study of the attitudes, knowledge, and behaviors of 2nd, 5th, 8th, and 11th grade children toward animals. Results suggest the possibility of distinct stages in the development of children's attitudes toward animals. (For a discussion of the implications of this study for humane education, see Humane Education, December 1983, pp. 23-25, 28.)

Langley, Gill. "School Dissection Survey." Humane Education Journal 3 (Easter term 1981): 4-5.

Discusses a study which attempted to determine the extent to which animals are used for dissection in schools and the attitudes of teachers and students toward this use. Fifty-three British middle and secondary students and teachers were surveyed, and 12 completed questionnaires were returned. Results showed that dissection was a common part of school biology programs and that the majority of biology teachers were in favor of dissection at the middle and secondary school levels. Results also revealed that most students of all age groups favored dissection themselves.

Paterson, D.A. "Children's Ideas on Animals--A Preliminary Study." Humane Education Journal 3 (Christmas Term 1980): 17-19.

A questionnaire was developed and distributed to a sampling of British school children to provide information on children's backgrounds, knowledge of "animal-nature," and knowledge about certain areas of cruelty. Results revealed generally humane, though often inconsistent attitudes toward animals. Inconsistencies were often found between attitudes and behavior toward animals.

Pomerantz, Gerri Ann. "Young People's Attitudes Toward Wildlife." Wildlife Division Report Number 2781, Michigan Department of Natural Resources, Lansing, Michigan, 1977.

A questionnaire was distributed to a group of seventh through twelfth grade students in Michigan public schools to determine their attitudes toward wildlife. Most respondents felt it was important to protect or control wildlife, and the majority valued the aesthetic qualities of wildlife more than the utilitarian ones.

Ray, John J. "Love of Animals and Love of People." Journal of Social Psychology 116 (1982): 299-300.

Two scales were contructed to measure love of animals and love of people. After a survey of 130 subjects and data analysis, the two scales were found to show no significant correlation. Suggests that love of people does not generalize to love of animals. (For a discussion of the implications of this study for humane education, see Humane Education, June 1984, p. 25.)

Rejeski, David. "Do Gorillas Snore?" Humane Education, December 1979, pp. 8-11.

A study of the nature and implications of children's questions about the living environment. Discusses questions asked by first, fourth, and eighth graders and suggests that such questions are useful as indicators of children's interests, psychological needs, and cognitive development.

Rowan, Andrew N. "Attitudes to Animals--A Brief Review." Paper presented at the First New England Conference on Animals and Society, Tufts University, Boston, MA, March 1984.

A survey of the literature on attitudes of children, students, and adults toward animals. Studies discussed include Kellert's 1983 report on children's attitudes and their age related development, and Simon's 1983 study of the influence of pets on human behavior.

Sanders, Gilbert Otis. "A Study of Stated Concerns of Secondary School Students on Selected Animal Welfare Problems." Ph.D. dissertation, Univeristy of Tulsa, 1974.

An animal welfare concern inventory containing thirty-one items was developed and administered to 150 eighth, 150 tenth, and 150 twelfth-grade students. Variables examined for their impact on student responses were grade level, sex, environment, and pet ownership. Eighth grade students exhibited the greatest degree of stated concern, as did females, suburban students, and students who owned pets.

Selby, Lloyd A., and Rhoades, John D. "Attitudes of the Public Towards Dogs and Cats as Companion Animals." Small Animal Practice 22 (1981): 129-137.

Describes a survey of attitudes toward dogs and cats as companion animals. Results indicate that respondents' like or dislike of dogs or cats influenced their attitudes toward ownership of companion animals. Female owners were more emotionally involved with their companion animals and younger respondents derived more of a feeling of importance--vanity from dog or cat ownership.

Serpell, James A. "Childhood Pets and their Influence on Adults' Attitudes." Psychological Reports 49 (1981): 651-654.

A survey of 120 adults was conducted to investigate the influence of childhood experience with pets on adult attitudes toward pets. Results suggest a significant association between an individual's contact with pets during childhood and his or her tendency to keep pets as an adult.

Stewart, Mary F. "A Study of Children's Attitudes to Pets." Glasgow, University of Glasgow Veterinary School, 1983. (Mimeographed.)

Describes a study designed to examine the influence of sex and age, parental attitudes, ethnic background, and personal experience on children's attitudes

toward dogs and cats. 87% of the children surveyed demonstrated positive attitudes toward dogs, as against 60% toward cats. Age and sex were important factors in attitudes toward cats and personal experience with pets was also significant in the formation of attitudes. Interesting correlations were also found to exist between children's attitudes toward pets, their ethnic background, and their parents' feelings about pets.

Tamir, Pinchas, and Hamo, Aliza. "Attitudes of Secondary School Students in Israel toward the Use of Living Organisms in the Study of Biology." International Journal for the Study of Animal Problems 1 (1980): 299-311.

Study examined the opinions and attitudes of 456 Israeli students in grades seven, nine, and eleven, toward various aspects of using living animals in the study of biology. Results showed that most students were interested in studying live animals through direct observation and experiment. However, most students exhibited concern for and affection toward living organisms in general and higher animals in particular. Practical implications and recommendations to biology teachers are suggested.

Templer, Donald I.: Salter, Charles A.; Dickey, Sarah; Baldwin, Roy; and Veleber, David M. "The Construction of a Pet Attitude Scale." The Psychological Record 31 (1981): 343-348.

Discusses the construction and administration of an instrument designed to measure attitudes toward pets. When administered to a group of kennel workers and a group of graduate social work students, the kennel workers, predictably, scored higher on the attitude scale.

Tennov, Dorothy. "Pain-Infliction in Animal Research." Paper presented at the 44th annual meeting of the Eastern Psychological Association, Washington, D.C., 4 May 1973.

Study explores student reactions to inflicting pain on animal subjects in psychological research. Specifically looks at two variables: (1) the species of the animal subject and (2) a verbal context which stresses either benefits to humans or painful research procedures. Results indicated approval of the use of animals in painful research was most frequent for the rat and it was higher for the monkey than the dog. Statements which stressed the benefits of animal research appeared on some questionnaires and significantly increased approval of the use of animals in painful research.

Whittle, Colin. "Children's Attitudes to Animals." NAAHE Journal 2 (Winter 1975): 19-22.

A non-statistical summary of children's responses to a series of questions designed to investigate attitudes toward and knowledge of animals. Discusses the role of the various communications media as purveyors of real knowledge as well as harmful misconceptions about animals.

ANTHROPOMORPHISM AND ANIMALS IN LITERATURE

Bartov, H. "Teaching Students to Understand the Advantages and Disadvantages of Teleological and Anthropomorphic Statements in Biology." Journal of Research

in Science Teaching 18 (1981): 79-86.

Describes a study designed to, among other things, determine the extent to which secondary school students are able to differentiate between teleological or anthropomorphic formulations and factual explanations. Results indicate that the ability to make this distinction is rather poorly developed in secondary school students. Includes discussion of implications and recommendations to biology teachers.

Blanchard, Jay S. "Anthropomorphism in Beginning Readers." The Reading Teacher 35 (February 1982): 586-591.

Discusses the use of anthropomorphism in beginning reading materials and surveys the history and nature of anthropomorphism as a literary technique as well as a psychological process. Includes a review of several beginning reading texts in terms of their anthropomorphic content.

Hogan, H. Wayne, "Factors Associated with the Attribution of Human Traits to Nonhumans." The Journal of Social Psychology 112 (1980): 161-162.

Attempts to assess the degree to which humans identify with various nonhumans. Findings indicate the four nonhuman species that received the most human-trait attribution were the chimp, dog, horse, and parakeet. The species that received the least human-trait attribution were the snake, wasp, roach, and earthworm. Women projected more human traits onto nonhumans than did men.

Jungwirth, E. "Do Students Accept Anthropomorphic and Teleological Formulations as Scientific Explanations?" Journal of College Science Teaching 8 (January 1977): 152-155.

Describes a study designed to examine whether biology teachers' anthropomorphic explanations and teleological formulations are taken at face value by their students. Results indicated widespread acceptance of teleological and anthropomorphic explanations among the various populations surveyed. Discusses implications for teacher educators, textbook writers, and teachers.

_____. "The Problem of Teleology in Biology as a Problem of Biology-Teacher Education." Journal of Biological Education 9 (1975): 243-246.

Discusses the problem of teleology (the attributing of purpose to natural processes) and the various forms of teleological interpretations that occur in biology text books and teacher guides. Includes recommendations to biology teachers, educational planners, and others, on various ways of approaching the problem of teleology.

_____. "Should Natural Phenomena be Described Teleologically or Anthropo-Morphically?--A Science Educator's View." Journal of Biological Education 11 (1977): 191-196.

Attempts to determine the degree of sensitivity of biology educators to teleological and anthropomorphic formulations as they appear in statements intended to be included in biology texts. Of the groups questioned (science educators, practicing scientists, practicing teachers, and prospective teachers) science educators demonstrated the most acute awareness of the possible problems associated with teleological and anthropomorphic explanations.

O'Donnell, Holly. "ERIC/RCS Report: Animals in Literature." Language Arts 57 (April 1980): 451-454.

Surveys and summarizes recent essays and books on animals in children's literature. Notes that, as children mature, they become more interested in stories that depict animals more objectively, i.e., animals that act like animals.

IMPACT OF THE MEDIA

Erickson, David L. and Van Tubergen, Norman. "The Wolf Men." The Journal of Environmental Education 4 (Fall 1972): 26-30.

Examines public response to "The Wolf Men," a 1969 NBC documentary on the hunting of timber wolves in North America. 320 letters (out of over 16,000 written in response to the program) were studied to determine the nature and variety of public attitudes toward wolves and wolf hunting, as well as demographic characteristics of the respondents. Results indicated that a significant number of respondents were concerned about the demise of the timber wolf and opposed to placing bounties on wolves. The results also hinted, very tenuously, at regional differences in concern for timber wolves.

Sprafkin, Joyce N.; Liebert, Robert M.; and Poulos, Rita Wicks. "Effects of a Prosocial Televised Example on Children's Helping." Journal of Experimental Child Psychology 20 (1975): 119-126.

Discusses a study in which first-grade children were exposed to one of three television programs: (1) a program from "Lassie" which included a boy helping a dog; (2) a program from "Lassie" with no helping episode; (3) a program from the "Brady Bunch" with no animals involved. Children exposed to the "Lassie" program with the helping scene helped puppies believed to be in distress for significantly more time than those exposed to the other two programs. (For a discussion of the implications of this study for humane education, see Humane Education, June 1983, p. 14.)

Many of the works cited above can be found in public or university libraries. Articles from HUMANE EDUCATION and other NAAHE publications can be obtained by writing to NAAHE, Box 362, East Haddam, CT 06423. We will also be able to provide you with many of the unpublished papers and theses that appear throughout the bibliography. In the event that an article or study is unavailable, we will attempt to put you in contact with the appropriate author or researcher.

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